



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,758	07/21/2003	James A. Hill	HORI 0131 PUS	4852
22045	7590	03/08/2005	EXAMINER	
BROOKS KUSHMAN P.C. 1000 TOWN CENTER TWENTY-SECOND FLOOR SOUTHFIELD, MI 48075			NOLAND, THOMAS	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/623,758	Applicant(s) HILL, JAMES A.	
	Examiner Thomas P. Noland	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-29 are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>07212003, 12202004</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

Ia-li. Claims 2-17, drawn to an acoustic transducer, classified in class 73, subclass 644.

II. Claims 18-25, drawn to an apparatus including a conduit through which fluid flows, classified in class 73, subclass 644.

III. Claims 26-29, drawn to a sampling system, classified in class 73, subclass 198.

2. Claim 1 link(s) inventions Groups Ia-III. The restriction requirement between the linked inventions is subject to the nonallowance of the linking claim(s), claim 1. Upon the allowance of the linking claim(s), the restriction requirement as to the linked inventions shall be withdrawn and any claim(s) depending from or otherwise including all the limitations of the allowable linking claim(s) will be entitled to examination in the instant application. Applicant(s) are advised that if any such claim(s) depending from or including all the limitations of the allowable linking claim(s) is/are presented in a continuation or divisional application, the claims of the continuation or divisional application may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Where a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. *In re Ziegler*, 44 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Note claim 1 will be examined with whichever group is elected.

3. The inventions are distinct, each from the other because:

Inventions Groups 2-3 considered together and Groups 1a-1i considered together are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because each of claims 2-17 contain features (see enumeration of Groups 1a-1i below) not required in the base claims of Groups 2 and 3. The subcombination has separate utility such as use an acoustic transducer without necessarily being used with a conduit as in Group 2 or as a sampling system as in Group 3.

4. Inventions Group 3 and Group 2 are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because it does not require the use of a conduit of flowing fluid having a property which is measured as evidenced by such not being required in claim 26 of group 3. The subcombination has separate utility such as general use as a flow meter and not necessarily in a sampling system as in group 3.

5. Groups Ia-Ii are set forth as follows.

- Ia. Claim 2, drawn to an acoustic transducer like that of claim 1 wherein the sleeve has a thermal conductivity of at least  $15\text{W}/(\text{m}\cdot\text{K})$ .
- Ib. Claims 3 and 11, drawn to acoustic transducer like that of claim 1 wherein the sleeve is made of metal.
- Ic. Claims 4-5, drawn to an acoustic transducer like that of claim 1 wherein the core has a thermal conductivity of less than  $15\text{W}/(\text{m}\cdot\text{K})$ .
- Id. Claims 6-7, drawn to an acoustic transducer like that of claim 1 wherein the core is made of fused silica.
- Ie. Claims 8-9, drawn to an acoustic transducer like that of claim 1 wherein there is high temperature gas fusing of the sleeve and core.
- If. Claim 10, drawn to an acoustic transducer like that of claim 1 wherein the sleeve is secured to the core with refractory cement.
- Ig. Claims 12-13, drawn to an acoustic transducer like that of claim 1 further comprising a thermal management system mounted to the sleeve to transfer heat from the sleeve.

- lh. Claims 14-15, drawn to an acoustic transducer like that of claim 1 wherein the sleeve is made of a material having a specified bulk sound speed relative to that of the core material.
- li. Claims 16-17, drawn to an acoustic transducer like that of claim 1 wherein the sleeve is insulated from portions of sides of the core.

6. Inventions Group Ia and Groups Ib-li are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention Group Ia has separate utility such as use as an acoustic transducer without having the specifics of Groups Ib-li. Each of Groups Ib-li are similarly separately usable. Note Fig. 7 shows that two acoustic transducers are disclosed as used in a combination. See MPEP § 806.05(d).

7. Because these inventions are distinct for the reasons given above and the search required for Group Ia is not required for Groups Ib-3, etc., restriction for examination purposes as indicated is proper.

8. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

9. If Group lh is elected, or if another group is elected with a traverse of the restriction out of Group lh, the following election of species must also be made:

This application contains claims directed to the following patentably distinct species of the claimed invention of Group Ih: The first species of Group Ih is one wherein the sleeve is made of a material having a bulk sound speed greater than that of the core material as set forth on page 4, lines 9-10 and is currently believed to be claimed in claim 14. The second species of Group Ih is one wherein the sleeve is made of a material having a bulk sound speed less than that of the core material as set forth on page 4, lines 10-18 and is currently believed to be claimed in claim 15.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 1 appears to be effectively generic to Group Ih.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

10. Re the inventions of Groups Ie and If appear to possibly alternately be considerable as directed to alternative species related to the securing of the sleeve to the core, i.e. one where fusion is used, and one where refractory cement is used and would be restrictable for that reason also.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom Noland whose telephone number is (571) 272-2202. The examiner can normally be reached on weekdays from 9:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Hezron E. Williams, can be reached on (571) 272-2208.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Noland/ds  
02/23/05

3/3/05  
Thomas P. Noland  
Primary Examiner  
Art Unit 2856

